CHAPTER 1
INTRODUCTION

1.1 Background

IoT is a device that is able to transfer data using the internet and without the need to connect with humans. One example of technology that uses IoT is the use of IoT for a smart home. The smart home itself can be used to facilitate human daily life at home.

Until now, IoT technology has not been fully utilized in everyday life. For example, turning on the lights and opening - closing the garage door of the car still with a manual. Therefore in this project creates an automatic machine innovation that can facilitate humans in carrying out daily activities, such as turning on - turning off the lights and opening - closing the garage door automatically. In making this smart home can use a microcontroller that is connected to sensors, such as light sensors / LDR, proximity sensors, ultrasonic sensors, and others. There are many microcontrollers that can be used such as Ethernet, Esp8266, Arduino Uno, Arduino Mega, Raspberry Pi, etc. One of them is NodeMCU.

By utilizing IoT technology people can manage garden lights and garage doors automatically by opening IP address by using MQTT on a client computer. After That create a web server to set the lights and garage automatically with use Node-Red by utilizing the IoT technology the community can automatically set the garden lights and garage doors by opening an IP address by using MQTT on the client computer. After that, it makes a web server to manage lights and garages automatically using Node-Red.

1.2 Scope

The formulation of the problem in this report is :

- How do you set the garden lights automatically with Node-Red?
- How do I set the garage door automatically with Node-Red?
- How do I operate mqtt at nodeMCU?

1.3 Objective

The purpose of this project is:

- Makes it easy to adjust the lights automatically using Node-Red.
- Make it easy to set the garage door automatically using Node-Red.
- Helps prevent monthly electricity waste.